

Suicide-related discussions with depressed primary care patients in the USA: gender and quality gaps. A mixed methods analysis

Steven D Vannoy,¹ Lynne S Robins²

To cite: Vannoy SD, Robins LS. Suicide-related discussions with depressed primary care patients in the USA: gender and quality gaps. A mixed methods analysis. *BMJ Open* 2011;**1**: e000198. doi:10.1136/bmjopen-2011-000198

► Prepublication history for this paper is available online. To view these files please visit the journal online (<http://bmjopen.bmj.com>).

Received 27 May 2011
Accepted 15 August 2011

This final article is available for use under the terms of the Creative Commons Attribution Non-Commercial 2.0 Licence; see <http://bmjopen.bmj.com>

For numbered affiliations see end of article.

Correspondence to

Dr Steven D Vannoy;
svannoy@uw.edu

ABSTRACT

Objective: To characterise suicide-risk discussions in depressed primary-care patients.

Design: Secondary analysis of recordings and self reports by physicians and patients. Descriptive statistics of depression and suicide-related discussion, with qualitative extraction of disclosure, enquiry and physician response.

Setting: 12 primary-care clinics between July 2003 and March 2005.

Participants: 48 primary-care physicians and 1776 adult patients.

Measures: Presence of depression or suicide-related discussions during the encounter; patient and physician demographics; depression symptom severity and suicide ideation as measured by the Patient Health Questionnaire (PHQ9); physician's decision-making style as measured by the Medical Outcomes Study Participatory Decision-Making Scale; support for autonomy as measured by the Health Care Climate Questionnaire; trust in their physician as measured by the Primary Care Assessment Survey; physician response to suicide-related enquiry or disclosure.

Results: Of the 1776 encounters, 128 involved patients scoring >14 on the PHQ9. These patients were seen by 43 of the 48 physicians. Suicide ideation was endorsed by 59% (n=75). Depression was discussed in 52% of the encounters (n=66). Suicide-related discussion occurred in only 11% (n=13) of encounters. 92% (n=12) of the suicide discussions occurred with patients scoring <2 on PHQ9 item 9. Suicide was discussed in only one encounter with a male. Variation in elicitation and response styles demonstrated preferred and discouraged interviewing strategies.

Conclusions: Suicide ideation is present in a significant proportion of depressed primary care patients but rarely discussed. Men, who carry the highest risk for suicide, are unlikely to disclose their ideation or be asked about it. Patient-centred communication and positive healthcare climate do not appear to increase the likelihood of suicide related discussion. Physicians should be encouraged to ask about suicide ideation in their depressed patients and, when disclosure occurs, facilitate discussion and develop targeted treatment plans.

ARTICLE SUMMARY

Article focus

- Determine frequency of suicide-related discussions in routine primary-care encounters with depressed patients along with demographic predictors.
- Identify process variables that may or may not influence the likelihood that suicide will be discussed in primary care.
- Analyse interview style related to enquiring about suicide and responding to patient responses to enquiry as well as unsolicited disclosure.

Key messages

- Suicide is addressed in a small minority of encounters with depressed patients in primary care.
- Suicide is rarely discussed with depressed male patients who are at high risk for suicide.
- Physician enquiries related to suicide are often made with patients who have the lowest levels of ideation, and the enquiries themselves are often biased to elicit a denial of ideation.

Strengths and limitations of this study

- The study involved a large number of primary care physicians and patients representing real-world patient encounters.
- It is unknown if the topic of suicide had been discussed in previous encounters and how such discussion influenced the present encounter.
- We were unable to identify significant predictors of suicide-related discussion, yet we were able to demonstrate that some likely candidates such as participatory decision-making style and trust were not sufficient.

INTRODUCTION

Depression treatment in primary care patients is common in the USA,^{1–4} Europe^{5–7} and worldwide.⁸ Unmet need makes it likely that primary care will continue to be the dominant source of depression treatment in years to come.⁹ Depression is

a robust risk factor for suicide.^{10–11} Suicide is a stigmatised behaviour¹² accounting for more than 30 000 deaths¹³ and more than 300 000 self-harm related emergency department visits¹⁴ per year in the USA. In 2007, the most recent year with available data, suicide was the eighth leading cause of death for US males aged >17, occurring at a rate of 23.3/100 000; for females, it was the 17th leading cause of death occurring at a rate of 5.75/100 000.¹³ Despite strong evidence that people who die by suicide are more likely to have seen a primary care provider than a mental-health provider prior to their death,^{15–16} suicide-related discussions in primary care appear to be rare.¹⁷ US adults are more than twice as likely to have seen a primary-care provider (45%) than a mental-health specialist (20%) in the month preceding their death.¹⁵ The frequencies of general practitioner visits in the month prior to suicide in Europe are similar.^{18–19} There is evidence that effective depression treatment in primary care can reduce suicide ideation,^{20–23} particularly in older adults who are at highest risk.^{24–25}

Underdetection and undertreatment of depression in primary care have been a longstanding concern^{26–28} and focus of quality-improvement efforts.²⁹ The problem is pronounced for men,²⁶ who are also at more than four times the risk of suicide across the lifespan.¹³

Little is known about the detection of, and response to, suicide risk in depressed primary-care patients. Using standardised patients portraying depression and adjustment disorder, Feldman *et al*³⁰ identified several factors that predicted a physician would enquire about suicide including: severity of depressive symptoms, patient initiated request for antidepressant medication, academic practice setting and personal experience with depression on behalf of the physician. Equally important, Feldman *et al* did not find any significant associations between physician age, gender, type of specialty, perceived barriers to, or confidence in treating depression, or, communication style as measured by the Measure of Patient-Centred Communication.³¹ They were left with 57% of the variance attributable to unmeasured physician factors.

Patient centredness, with respect to both communication and environment, has been emphasised as an important process variable related to quality care. We sought to identify additional process variables that might predict the likelihood that suicide would be discussed in routine primary-care visits.

METHODS

This is a secondary analysis of recordings and self reports by physicians and patients participating in The Establishing Focus Study. Conducted between 2002 and 2006, the Establishing Focus study was a randomised controlled trial of a brief intervention to increase physician skills at organising and prioritising encounter time with particular emphasis on using a patient-centred approach. The study was conducted in a large metro-

politan city and recruited physicians from two settings, an academic medical centre and a large managed care organisation.

Physicians were randomised to an educational seminar followed by on-site coaching or no-intervention. Physicians completed several questionnaires immediately after each patient encounter (details below). Patients were recruited at the time of appointment, on a sequential basis, for all of the physicians enrolled in the trial. Consenting patients completed questionnaires (details below) prior to their clinic session and agreed to have the encounter audio-recorded. Inclusion criteria ensured that patients had seen the physician at least once prior to the index encounter.

Primary outcomes for the Establishing Focus study included protocol (agenda setting) behaviours demonstrated during the early, middle and late phases of encounters, encounter length, number of concerns raised, patient satisfaction, trust and functional status. All procedures for the original study, as well as the current analysis, were approved by the University of Washington and Group Health Cooperative institutional review board.

PATIENT MEASURES

Patient demographics included gender, age, income and race-ethnicity categorised as White, Black, Mixed and Other. The Patient Health Questionnaire (PHQ9)³² was used to assess depression symptom severity. Scores greater than 14 were coded as positive for depression. Any response greater than 'Not at All' on item 9 was coded as positive for suicide ideation. Patients also reported current pain on a six-point Likert-type scale.

The Medical Outcomes Study Participatory Decision-Making Scale³³ was used to assess differences in patients' perceptions of their physician's decision-making style.

The Health Care Climate Questionnaire³⁴ (HCCQ) contains 15 Likert-type items assessing how supportive of their autonomy patients believed their physicians were on the day of the visit.

The trust subscale of the Primary Care Assessment Survey³⁵ (PCAS) assesses differences in patients' confidence about their physician's integrity, competence and willingness to act in their behalf. This subscale contains eight Likert-type items assessing patient trust and has been demonstrated to predict self-reported health improvement.³⁵ One patient-satisfaction item from the PCAS was also used.

PHYSICIAN MEASURES

Physician measures included gender, whether or not they had been assigned to the original study's experimental condition and the type of practice environment in which they worked, either a health-maintenance organisation or an academic-affiliated clinic. Physicians rated how fatigued and how rushed they felt during the encounter by two single items, each on seven-point scales.

SESSION CODING

We utilised a qualitative approach to identify adult primary-care encounters in which depression or suicide was discussed. Two research assistants were trained to identify depression and suicide-related discourse. The training included a glossary of depression and suicide-related terms and feedback on a subset of encounters screened by one of the authors (SDV). Raters were instructed to use a very liberal interpretation of depression or suicide discourse, such that any content that appeared to have a psycho-social focus was to be included. All discrepancies between initial ratings were resolved by one of the authors (SDV) in conjunction with the raters. The raters listened to each session and coded it as positive or negative for both depression and suicide content. For each session, they noted the time within the session that the first occurrence of depression/suicide discourse occurred and who initiated it. For positively coded encounters, they transcribed the text segment associated with the positive coding(s).

All transcribed text segments were subjected to discourse analysis, including (1) how the topic of suicide was introduced into conversation, (2) by whom the topic was introduced and (3) the response (or non-response) that followed patient disclosure of suicide ideation. Responses that appeared to follow up on the patient's disclosure of suicide ideation were coded as engaging. We applied a liberal interpretation to being 'on topic', coding responses that were related to the topic of depression or treatment of depression or requests for clarification as being engaging. Responses that appeared to shift topic or reinforce denial of ideation were coded as disengaging.

QUANTITATIVE ANALYSES

We conducted univariate logistic regression analyses to identify potential predictors of depression-related and suicide-related discussions using Stata V.10.³⁶

PARTICIPANTS AND SETTING

Between July 2003 and October 2004, Establishing Focus investigators invited all physicians (n=75) in a convenience sample of 12 community-based primary care clinics serving the Puget Sound region to participate in this study. A total of 59 (79%) physicians consented to participate. Forty-eight physicians participated in all aspects of the study. Thirty-one worked in a university-affiliated primary care network consisting of eight neighbourhood clinics. Seventeen physicians worked in a consumer-governed, non-profit healthcare system. Owing to difficulties in study logistics, Establishing Focus investigators elected not to collect data from one clinic with six consented physicians. Hence, in the final data, 33 participating physicians were affiliated with a university-affiliated primary care network (of these, 31 completed all components of the study—two disenrolled); 20 physicians were affiliated with

a consumer-governed, non-profit healthcare system (of these, 17 completed all components of the study—three disenrolled).

Patient recruitment began approximately 6 months following completion of the Establishing Focus physician training and lasted 1 year (March 2004 to March 2005). Eligibility criteria included: being 18 years or older, acting as their own legal guardian, having seen the physician at least twice in the previous 2 years, having no serious cognitive impairment and fluency in English. Clinic staff advised study coordinators when eligible patients arrived. The majority (71%) of patients approached agreed to participate. Most (98%) participants completed the study questionnaires following the visit.

RESULTS

The 48 enrolled physicians saw 1776 consenting patients. Of these, 43 physicians saw 128 patients who scored positive for depression. Nearly two-thirds of the depressed sample was female. Only lower levels of pain predicted that a depression discussion would occur, while only female gender predicted that a suicide-related discussion would occur. Depression was discussed in 52% of the encounters. Suicide ideation was endorsed by 59% (n=75) of participants, yet suicide-related discussion occurred in only 11% (n=13) of encounters. Although suicide ideation was endorsed in equal proportions by males and females, suicide was discussed in only one encounter with a depressed male. The overall age range in the sample was 18 to 83, in the depressed group (18 to 76) and in the suicide discussion group (18 to 76). Detailed patient-level demographics are presented in table 1.

Physician gender and practice type predicted the likelihood of discussing depression. No physician variables were associated with discussing suicide (table 1).

Only higher ratings of physician decision-making style were associated with discussing depression, and no process variable predicted suicide-related discussion (table 2).

Categorical endorsement of any suicide ideation versus none on PHQ9 item 9 was equal for men and women; however, men were 5% more likely to endorse suicide ideation greater than 'several days' (table 3).

When suicide was discussed, the conversation was more frequently initiated by physicians (n=8) than by patients (n=5). No male patients initiated suicide-related discussion. One female patient raised the issue of suicide ideation in a declaration that she was not feeling suicidal; the other four declared the presence of ideation.

In seven of the eight instances, physicians introduced the topic of suicide by asking explicitly whether the patient wanted to hurt or harm themselves or commit suicide (table 4). In five of the eight questions, physicians used words or phrases that are characterised by linguists as having 'negative polarity.' These words and phrases are held to reveal (in their formulations) that

Table 1 Participant and physician demographics and clinical characteristics

Patients	Total depressed (n = 128)	Discussed depression (n = 66; 52%)	Discussed suicide (n = 13; 11%)	
Female (%)	64	68	93†	
Age	47 (SD 14.2)	45 (SD 13.7)	41 (SD 15.9)	
Income	\$50 000	\$50 000	\$30 000	
Race-ethnicity				
White (%)	69	78	77	
Mixed (%)	12	14	15	
Black (%)	9	5	8	
All other (%)	10	3	0	
Experimental condition (%)	59	58	46	
Patient Health Questionnaire	20.1 (SD 3.62)	21.2 (SD 4.47)	21.7 (SD 4.52)	
Patient Health Questionnaire item 9	1.0 (SD 1.07)	1.0 (SD 1.05)	1.1 (SD 1.14)	
Pain (1 to 6)	4.0 (SD 1.4)	3.5* (SD 1.5)	3.6 (SD 1.4)	
Physicians	Total (n = 48)	Saw depressed patient (n = 43; 90%)	Discussed depression (n = 32; 66%)	Discussed suicide (n = 11‡; 23%)
Female (%)	42	44	58*	62
Academic clinic (%)	65	70	84*	75
Health-maintenance organisation (%)	35	30	16	25
Experimental condition (%)	46	58	57	50

'Depressed' is indicated by a Patient Health Questionnaire score of >14. 'Experimental condition' indicates the physician was a part of the original intervention.

*Statistically significant predictor of discussing depression ($p<0.05$).

†Statistically significant predictor of discussing suicide ($p<0.05$).

‡Two physicians had two encounters in which suicide was discussed; hence only 11 unique physicians for 13 encounters.

the questioner 'has grounds for preferring one answer to another—in this case a negative answer'³⁷ (see also Borkin³⁸ and Heritage³⁹).

Four of the five patients who initiated suicide-related discussion endorsed the presence of suicide ideation, while one explicitly denied it, despite having indicated on her PHQ9 that she was being bothered by thoughts of death or hurting herself more than half the days in the past 2 weeks (table 5).

Physicians responded to disclosure of suicide ideation in equal numbers with respect to engaging-versus-disengaging communication style. Interestingly, they were twice as likely to use an engaging rather than disengaging communication style when the patient denied suicide ideation (box 1).

DISCUSSION

Depression continues to be underaddressed in primary care. We found high rates of suicide ideation in this sample of depressed primary-care patients. Consistent with other reports, suicide was rarely discussed. Of note, in the few cases in which physicians asked about suicide, it was with patients who had the lowest levels of suicide ideation as reported on the PHQ9. This raises the question as to why patients with frequent ideation are not being identified. Perhaps most disturbingly, while suicide ideation was equally prevalent in males and females, it was only discussed in one encounter with a male patient.

We know of no research investigating the impact of micro-linguistic interviewing strategies on patient

Table 2 Process variables as predictors of depression/suicide discussion

	Total depressed (n=128)	Depression discussed (n=66)	Suicide discussed (n=13)
Medical Outcomes Study participatory decision-making style	4.1 (SD 0.81)	4.3* (SD 0.74)	4.1 (SD 0.73)
Health care climate questionnaire	6.1 (SD 0.91)	6.3 (SD 0.84)	6.1 (SD 0.98)
Trust subscale of the primary care assessment survey	6.2 (SD 0.82)	6.3 (SD 0.72)	6.4 (SD 0.82)

*Characteristic predicted that a depression-related discussion would occur ($p<0.05$).

Table 3 Distribution of responses to Patient Health Questionnaire suicide item

In the past 2 weeks, how often have you been bothered by thoughts that you'd be better off dead or of hurting yourself in some way?	Females (n = 82), % (n)	Males (n = 46), % (n)
Not at all	41 (34)	41 (19)
Several days	28 (23)	24 (11)
More than half the days	16 (13)	24 (11)
Nearly every day	14 (12)	11 (5)

disclosure of suicide ideation. In a study aimed at eliciting patient concerns,³⁹ it was demonstrated that even a single word can influence whether patients share all of their concerns in a primary-care encounter. Our findings suggest that when physicians ask about suicidal ideation, they often do so with negative polarity, which may inhibit full disclosure. Furthermore, there may be compounded effects when a question is negatively polarised, and the physician follows up a patient denial in a way that reinforces the negative answer (eg, 'that's good'). Future research on how patients and providers collude to avoid important disclosures about suicide and depression is warranted.

Based on our findings, we recommend that education programmes be designed to teach patients to 'ask your doctor' about depression through public-health campaigns and quality-improvement efforts imple-

mented to teach physicians that suicide-related discourse should be part and parcel of addressing depression.

Patient centredness does not guarantee that discussions about suicide will occur in primary-care encounters. Specific methods for increasing suicide-related discourse in primary care are needed.

Training for physicians varies a great deal in the US. Physicians who train with patient populations that carry a high burden of suicide may receive more guidance for engaging patients around suicide, and this may account for physician variance related to how frequently they broach the topic and the style of enquiry used. Educational interventions should be developed and tested to determine the ability to modify these important physician behaviours.

LIMITATIONS

Although this sample is large, the number of identified suicide-related conversations was small, reducing our statistical power to perform inferential analyses. It is possible that the low occurrence of depression and suicide-related conversation is due to the fact that the patient and provider had discussed this topic at previous visits. It is also possible that many patients were being followed by mental-health specialists and addressing suicide risk there. While some physicians may have been aware that the patient in question was being followed in specialty care, a prudent clinical action would include assessing for recent specialty care visits and intent for ongoing management in specialty care—something we did not see. From a clinical risk management

Table 4 Physician phrases initiating suicide discussion

	Patient response	Patient Health Questionnaire item 9
1. Since we talked on the phone the other day, I know you're down, but you're <i>not</i> , like, thinking of hurting yourself or <i>anything</i> ?	No	0
1. Sometimes people, when they have thoughts of feeling really sad, they have thoughts of harming themselves. Have you <i>ever</i> had thoughts of suicide or killing yourself?	Mmm-mm (no)	0
1. Okay. Do you have thoughts of hurting yourself or <i>anything</i> like that?	No	0
1. Okay, well, those are definitely depression symptoms. Do you feel like harming yourself?	Mmm, not really	1
1. Have you had <i>any</i> thoughts of hurting yourself?	Yeah	2
1. You're definitely not thinking about hurting yourself or <i>anything</i> like that?	You know, I have to be honest...(patient goes into long description of stressors and attitudes towards suicide, with ultimate denial of intent but clearly has thoughts of wishing she were dead)	1
1. Are you suicidal?*	No not yet, I haven't thought about it	1
1. Some people get so down that they are having thoughts about ending your life	No	0

Italic text indicates negative polarity.

*Denies it to the physician but reports being bothered by thoughts of death or of hurting herself 'Several days' in the past 2 weeks on the Patient Health Questionnaire.

Table 5 Patient phrases initiating suicide discussion

Patient disclosure	Patient Health Questionnaire item 9*	Physician responses
1. I just feel that I haven't had any suicidal ideation in a year or so, and it's been very pervasive in the last month	2	Are you (inaudible) at the sleep lab
2. I don't know. I just don't. know, I just don't—I'm tired of living like this. I'm so tired of living in pain, I don't want to. I can't—you know	3	You just save it up for me
3. I've had suicidal things going on with me	3	Oh, I'm sorry to hear that
4. I think I should just be buried	0	Mm-hmm. Let's see. Shortness of breath
5. I'm <i>not</i> thinking of suicide anymore†	2	That's good

*Item 9 asks, 'How often in the past 2 weeks have you been bothered by thoughts of death or of hurting yourself?' Response options are 'Not at all=3,' 'Several days=1,' 'More than half the days=2' or 'Nearly every day=3.'

†Spontaneously denied the presence of suicide ideation but indicated being bothered by thoughts of death or hurting herself 'more than half the days' in the past 2 weeks on the Patient Health Questionnaire.

perspective, deferring all aspects of suicide risk management to mental-health specialists is not likely to ensure optimal care delivery.

All patients and providers were aware that their session was being audio-recorded. It is possible that both parties were inhibited from discussing suicide owing to this fact. Given the stigma associated with suicide, providers may have felt it was too personal for inclusion in an audio-recorded session.

Physicians may have been reluctant to talk about suicide for fear of actually inducing or increasing suicide ideation.^{40 41} While this concern appears frequently in

suicide-prevention discourse, there are few data to support or refute the concern. However, recently, Crawford *et al*⁴² found that there was no increase in suicide ideation at follow-up with primary-care patients screened for suicide. This argument is akin to thinking that asking about smoking or drug use would induce such behaviours. In addition to fear of inducing suicide-related behaviour, Stoppe *et al*⁴¹ found physicians often cited that asking about suicide was 'not necessary,' implying that they were drawing from indirect means whether or not the patient was at risk for suicide.

The large discordance between patient disclosure on the PHQ-9 and spontaneously disclosing to their physician is concerning. In comparing patient self-report with clinician ratings of suicide-related behaviour, Trivedi *et al*⁴³ found that patients were more likely to endorse suicide intent and plans than physicians. This finding suggests a need for promoting best practices for identifying risk.

There was no follow-up data collection in this study, so we were unable to document suicides or suicide attempts following the visit.

CONCLUSIONS

Suicide ideation is present in a significant proportion of depressed primary care patients but rarely discussed. Men, who carry the highest risk for suicide, are unlikely to disclose their ideation in the encounter. Perhaps more disturbing is that physicians are unlikely to broach the subject of suicidal ideation with their male patients. Patient disclosure of suicide ideation is an important first step in preventing suicide. Physicians should be encouraged to ask about suicide ideation in their depressed patients, particularly with men, who are at highest risk of dying by suicide.

Author affiliations

¹Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle, Washington, USA

²Department of Medical Education and Bioinformatics, University of Washington, Seattle, Washington, USA

Box 1 Engaging and disengaging physician responses

Physician responses to patient denial of ideation

Engaging

1. Anybody in the family ever had suicidal? Let me look through the family history that I do have. Any family history of depression or anxiety that you're aware of?
2. Have you been taking your Zoloft?
3. You don't get that?
4. Okay. Do you get out and get things done that you want to get done?

Disengaging

1. Uh huh. Let's see. Have we checked your thyroid?
2. I didn't think so

Physician responses to patient's endorsement of ideation

Engaging

1. When was the last time?
2. Let me search the (hospital) and see if one of their psychiatrists who has started*
3. Oh, I'm sorry to hear that

Disengaging

1. Are you (inaudible) at the sleep lab?
2. You just save it up for me!
3. Mm-hmm. Let's see. Shortness of breath

*Patient interrupts physician at this point; he returns to referral after interruption.

Acknowledgements We would like to acknowledge the role of DM Brock in helping conduct the Establishing Focus study as well as helping the collection and organisation of data for the study presented here.

Correction notice The “To cite: ...” information and running footer in this article have been updated with the correct volume number (volume 1).

Funding Funding for this study was provided in part by the National Centre for Research Resources (KL2RR025015) and Agency for Healthcare Research and Quality (5R01HS013172-03).

Competing interests None.

Ethics approval Ethics approval was provided by the University of Washington and Group Health Cooperative.

Contributors All authors fully participated in the qualitative analysis of the data. SDV led the quantitative analysis with consultation with LSR. LSR was the principal investigator on the establishing focus study, which is the source of the data used in this study. The paper was written by SDV with critical revisions added by LSR.

Provenance and peer review Not commissioned; externally peer reviewed.

Data sharing statement Investigators interested in the original data set should contact LSR at lynner@uw.edu

REFERENCES

- Kessler RC, Adler L, Ames M, *et al.* The world health organization adult ADHD self-report scale (ASRS): a short screening scale for use in the general population. *Psychol Med* 2005;35:245–56.
- Olfson M, Marcus SC, Druss B, *et al.* National trends in the outpatient treatment of depression. *JAMA* 2002;287:203–9.
- Kessler D, Breenwith O, Lewis G, *et al.* Detection of depression and anxiety in primary care: Follow up study. *BMJ* 2002;325:1016–17.
- Wang PS, Demler O, Olfson M, *et al.* Changing profiles of service sectors used for mental health care in the United States. *Am J Psychiatry* 2006;163:1187–98.
- Wittchen HU, Jacobi F. Size and burden of mental disorders in Europe—a critical review and appraisal of 27 studies. *Eur Neuropsychopharmacol* 2005;15:357–76.
- Rait G, Walters K, Griffin M, *et al.* Recent trends in the incidence of recorded depression in primary care. *Br J Psychiatry* 2009;195:520–4.
- Hämäläinen J, Isometsä E, Sihvo S, *et al.* Treatment of major depressive disorder in the Finnish general population. *Depress Anxiety* 2009;26:1049–59.
- Ustun TB, Von Korf M. Primary mental health services. In: Üstün TB, Sartorius N, eds. *Mental Illness in General Health Care: An International Study*. Chichester, New York: John Wiley and Sons, 1995:347–60.
- Mojtabai R. Unmet need for treatment of major depression in the United States. *Psychiatr Serv* 2009;60:297–305.
- Harris EC, Barraclough B. Suicide as an outcome for mental disorders: a meta-analysis. *Br J Psychiatry* 1997;170:205–28.
- Pokorny AD. Prediction of suicide in psychiatric patients: Report of a prospective study. *Arch Gen Psychiatry* 1983;40:249–57.
- Witte TK, Smith AR, Joiner TE. Reason for cautious optimism? Two studies suggesting reduced stigma against suicide. *J Clin Psychol* 2010;66:611–26.
- WISQARS; National Center for Injury Prevention and Control. WISQARS (Web-Based Injury Statistics Query and Reporting System). <http://www.Cdc.Gov/Ncipc/> (accessed 2 Aug 2011).
- Claassen CA, Trivedi MH, Shimizu I, *et al.* Epidemiology of nonfatal deliberate self-harm in the United States as described in three medical databases. *Suicide Life Threat Behav* 2006;36:192–212.
- Luoma JB, Martin CE, Pearson JL. Contact with mental health and primary care providers before suicide: a review of the evidence. *Am J Psychiatry* 2002;159:909–16.
- Dennison LM, Basham C, Dickinson KC, *et al.* Suicide risk assessment and content of VA health care contacts before suicide completion by veterans in Oregon. *Psychiatr Serv* 2010;61:1192–7.
- Tai-Seale M, McGuire T, Colenda C, *et al.* Two-minute mental health care for elderly patients: inside primary care visits. *J Am Geriatr Soc* 2007;55:1903–11.
- Pearson A, Saini P, Da Cruz D, *et al.* Primary care contact prior to suicide in individuals with mental illness. *Br J Gen Pract* 2009;59:825–32.
- Isometsä ET, Heikkinen ME, Marttunen MJ, *et al.* The last appointment before suicide: Is suicide intent communicated? *Am J Psychiatry* 1995;152:919–22.
- Schulberg HC, Lee PW, Bruce ML, *et al.* Suicidal ideation and risk levels among primary care patients with uncomplicated depression. *Ann Fam Med* 2005;3:523–8.
- Rutz W, Walinder J, Eberhard G, *et al.* An educational program on depressive disorders for general practitioners on Gotland: background and evaluation. *Acta Psychiatr Scand* 1989;79:19–26.
- Szanto K, Kalmar S, Hendin H, *et al.* A suicide prevention program in a region with a very high suicide rate. *Arch Gen Psychiatry* 2007;64:914–20.
- Henriksson S, Isacson G. Increased antidepressant use and fewer suicides in Jämtland County, Sweden, after a primary care educational programme on the treatment of depression. *Acta Psychiatr Scand* 2006;114:159–67.
- Bruce ML, Ten Have TR, Reynolds CF 3rd, *et al.* Reducing suicidal ideation and depressive symptoms in depressed older primary care patients: a randomized controlled trial. *JAMA* 2004;291:1081–91.
- Vannoy SD, Duberstein P, Cukrowicz K, *et al.* The relationship between suicide ideation and late-life depression. *Am J Geriatr Psychiatry* 2007;15:1024–33.
- Schoenbaum M, Sherbourne C, Wells K. Gender patterns in cost effectiveness of quality improvement for depression: results of a randomized, controlled trial. *J Affect Disord* 2005;87:319–25.
- Wells KB, Hays RD, Burnam MA, *et al.* Detection of depressive disorder for patients receiving prepaid or fee-for-service care. Results from the medical outcomes study. *JAMA* 1989;262:3298–302.
- Katon W, von Korff M, Lin E, *et al.* Adequacy and duration of antidepressant treatment in primary care. *Med Care* 1992;30:67–76.
- World Health Organization. *Prevention of Suicide: Guidelines For The Formulation and Implementation of National Strategies*. Geneva, Switzerland: World Health Organization, 1996.
- Feldman MD, Franks P, Duberstein PR, *et al.* Let's not talk about it: Suicide inquiry in primary care. *Ann Fam Med* 2007;5:412–18.
- Brown GS, Burlingame GM, Lambert MJ, *et al.* Pushing the quality envelope: a new outcomes management system. *Psychiatr Serv* 2001;52:925–34.
- Kroenke K, Spitzer RL, Williams JB. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med* 2001;16:606–13.
- Kaplan SH, Greenfield S, Gandek B, *et al.* Characteristics of physicians with participatory decision-making styles. *Ann Intern Med* 1996;124:497–504.
- Kasser VG, Ryan RM. The relation of psychological needs for autonomy and relatedness to vitality, well-being, and mortality in a nursing home. *J Appl Soc Psychol* 1999;29:935–54.
- Safran DG, Kosinski M, Tarlov AR, *et al.* The primary care assessment survey: tests of data quality and measurement performance. *Med Care* 1998;36:728–39.
- Stata Statistical Software: Release 11 [Computer Program]. College Station, TX: StataCorp LP, 2007.
- Ladusaw WSA. 2003. <http://people.ucsc.edu/~ladusaw/docs/WAL7-13-03.pdf>.
- Borkin A. *Polarity Items In Questions*. Chicago: Chicago Linguistic Society, 1971.
- Heritage J, Robinson JD, Elliott MN, *et al.* Reducing patients' unmet concerns in primary care: The difference one word can make. *J Gen Intern Med* 2007;22:1429–33.
- Schulberg HC, Bruce ML, Lee PW, *et al.* Preventing suicide in primary care patients: the primary care physician's role. *Gen Hosp Psychiatry* 2004;26:337–45.
- Stoppe G, Sandholzer H, Huppertz C, *et al.* Family physicians and the risk of suicide in the depressed elderly. *J Affect Disord* 1999;54:193–8.
- Crawford MJ, Thana L, Methuen C, *et al.* Impact of screening for risk of suicide: randomised controlled trial. *Br J Psychiatry* 2011;198:379–84.
- Trivedi MH, Wisniewski SR, Morris DW, *et al.* Concise health risk tracking scale: a brief self-report and clinician rating of suicidal risk. *J Clin Psychiatry* 2011;72:757–64.